Attachment A
Common Core State Standards in Mathematics

Categories of change

- Numerous examples of **new content unique to this version** were found throughout. We are not suggesting that these are necessarily inappropriate standards, rather the volume of additions was unexpected this far along in the process.

  Examples:

  Elementary - Grade 5:

  "Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols."

  Middle – Grade 8:

  "Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that square root of 2 is irrational.

  High School – Extend the domain of the trigonometric functions using the unit circle

  "Understand that the radian measure of an angle is the length of the arc on the unit circle subtended by the angle."

- **Compacting of standards** is evident throughout. For the sake of brevity, we have only included one example. However, similar examples are evident throughout the document.

  Elementary - Grade 1:

March Draft – Grade 1	June Draft – Grade 1
7. Understand that in adding or subtracting two-digit numbers, one adds or subtracts like units (tens and tens, ones and ones) and sometimes it is necessary to compose or decompose a higher value unit. 9. Add one-digit numbers to two-digit numbers, and add multiples of 10 to one-digit and two-digit numbers. 10. Explain addition of two-digit numbers using concrete models or drawings to show composition of a ten or hundred. 11. Add two-digit numbers to two-digit numbers using strategies based on place value, properties of operations, and/or the inverse relationship between addition and subtraction; explain the reasoning used.	4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. **(Several standards have been merged into 1 standard - #s 7, 9, 10, 11)**

- **Technical language** has increased from previous drafts making it more difficult for all stakeholders to access.
  Examples:
  Elementary - Grade 3:
  " 7d. Recognize area as additive; find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems."
  Middle – Grade 6:
  "3. Recognize that a measure of center for a numerical data set summarizes all of its values using a single number, while a measure of variation describes how its values vary using a single number."

- **Increased rigor** has been evidenced especially in the change of many of the verbs. Key verbs have been changed throughout the standards which makes a difference in what is taught, how it is taught, and how it is assessed. This is especially evident in the high school standards.

  Example:
  High School

March Draft - Algebra	June Draft
Prove the formula for the sum of a geometric series and use the formula to solve problems.	**Derive** the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. *For example, calculate mortgage payments.*